[Abstract]

The invention at hand describes a method for the cyclization of peptides and proteins in which linear thioesters serve as substrates. The cyclization is catalyzed by thioesterase domains of NRPS or PKS cyclases. The substrates according to the present invention are composed of one linear peptide on which a charge-stabilized aromatic, heteroaromatic or araliphatic leaving group is bound. These substrates lead to higher yields and reaction rates than linear peptides able to be cyclized with methods known so far and, furthermore, allow the cyclization of such peptides which were previously not able to be cyclized.